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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

COOLEY, C

ART UNIT

PAPER NUMBER

1722

DATE MAILED: 09/11/01

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/623,714

Applicant(s)
Appelquist et al.

Examiner
Charles Cooley

Art Unit
1723



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.

If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.

If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.

Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 7 Sep 2000

2a) This action is **FINAL**.

2b) ☒ This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-10 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-10 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is are objected to by the Examiner.

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☒ All b) Some* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____

3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO 892)

18) Interview Summary (PTO-413) Paper No(s)

16) Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) Notice of Informal Patent Application (PTO-152)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s)

20) Other

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OFFICE ACTION

1. This application has been assigned to Technology Center 1700, Art Unit 1723 and the following will apply for this application:

a. Please direct all written correspondence with the correct application serial number for this application to Art Unit 1723.

b. Telephone inquiries regarding this application should be directed to the Technology Center 1700 receptionist at ☎(703) 308-0651 or to the Examiner at ☎(703) 308-0112. Official facsimile correspondence filed before a final office action should be transmitted to ☎(703) 872-9310. Official facsimile correspondence which responds to a final office action should be transmitted to ☎(703) 872-9311.

Priority

2. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d). All of the CERTIFIED copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

Information Disclosure Statement

3. Note the attached PTO-1449 form submitted with the Information Disclosure Statement filed 27 SEP 2000.

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Drawings

4. Applicant should verify that (1) all reference characters in the drawings are described in the detailed description portion of the specification and (2) all reference characters mentioned in the specification are included in the appropriate drawing Figure(s) as required by 37 CFR 1.84(p)(5).

Specification

5. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

6. The disclosure is objected to because of the following informalities:

a. terms such as "labour" and "vulcanisation" throughout the specification should be revised to reflect customary U.S. spelling.

Appropriate correction is required.

7. The abstract is acceptable.

8. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed (MPEP 606.01).

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Claim Rejections - 35 U.S.C. § 112, second paragraph

9 Claims 1-10 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

 The second paragraph of 35 USC 112 requires a claim to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Under *In re Hammack*, 166 USPQ 204 (CCPA 1970) and *In re Moore*, 169 USPQ 236 (CCPA 1971), claims must be analyzed to determine their metes and bounds so that it is clear from the claim language what subject matter the claims encompass. This analysis must be performed in light of the applicable prior art and the disclosure. The definiteness of the claims is important to allow others who wish to enter the market place to ascertain the boundaries of protection that are provided by the claims. *Ex parte Kristensen*, 10 USPQ 2d 1701, 1703 (BPAI 1989). The pending claims fail to particularly point out and distinctly claim the subject matter which applicant regards as the invention and are therefore of indeterminate scope for the following reasons:

10. In the instant application, it appears that the preambles of claims 1-10 set forth that a subcombination of the support device is being claimed and the centrifugal separator is only functionally recited. The scope of the claims is clear as long as no further mention of the centrifugal separator appears in the claims, or the bodies of the claims refer to the centrifugal separator in a functional manner. A question arises as to

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whether the claims recite a combination or subcombination when the centrifugal separator is positively recited within the bodies of the claims wherein an inconsistency develops in the claims. The preamble indicates a subcombination of the support device, while in the bodies of one or more claims, there is at least one occurrence of a positive recital of structure indicating that the combination of the support device and centrifugal separator is being claimed. It is not clear if Applicant's intent is to claim merely the support device or the support device in combination with the centrifugal separator.

Claims 1-10 are therefore inconsistent and indefinite because the preambles of the claims recite the subcombination (the support device) for use with the combination (the support device in combination with the centrifugal separator) yet the elements of the support device and centrifugal separator appear to be claimed in structural combination in the bodies of the claims. If the elements of the invention are claimed in combination in the bodies of the claims, the preambles must also claim them in combination or the subject matter of the preambles would not be considered consistent with limitations recited in the bodies of the claim rendering the scope of the claims indefinite. In the instant case, it is not clear as to whether the claims are intended to be combination claims of the support device *and* centrifugal separator or intended to be subcombination claims of the support device only. The question has arisen based on the present claiming of the "and which each [support member] is provided between the

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bearing member and the frame member and has a longitudinal axis extending outwardly with respect to the axis" (claim 1) and "the longitudinal axis of the support members extends substantially radially with respect to the axis of rotation (claim 7). Since a positively recited orientation between the subcombination of the support device and the centrifugal separator is set forth, it appears that there is at least one occurrence of a positive recital of structure indicating that the combination of the support device and centrifugal separator is being claimed which renders the scope of the claims indefinite. For purposes of the prior art, the claims are being considered to be drawn to the subcombination of the support device only.

Claim Rejections - 35 U.S.C. § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 97/13583 in view of GB 2143299.

WO 97/13583 discloses the recited support device for a centrifuge substantially as claimed including support members comprising a helical spring element 6 having an

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axis disposed radially with respect to the axis of rotation of the centrifuge 5; and spring element pretensioning means or adjustable stop members 12 or 13. WO 97/13583 does not disclose the recited rubber material in the spaces between the adjacent rounds or turns of the spring element. GB 2143299 discloses a composite spring suitable for use in industrial vibration and shock isolators (Page 1, lines 119-122) including a helical spring element 10 wherein various materials such as a rubber material 15 (Page 1, lines 107-111) is formed between adjacent rounds or turns of the spring element as seen in Figure 1. The spring element 10 is embedded in and thus fixedly connected to the rubber material 15. It would have been prima facie obvious to one having ordinary skill in the art, at the time applicant's invention was made, to have provided rubber material in the spaces between the adjacent rounds or turns of the spring element in the spring elements of WO 97/13583 as disclosed by GB 2143299 for the purposes of (a) eliminating the inherently poor damping properties of a metal coil spring which permit high and low frequency vibration from being transmitted; (b) providing ample support while providing good variable damping properties at both low and high frequencies; (c) to control the transmission of vibration throughout the length of the spring; and (d) to provide support an any system in which high axial and lateral stiffness is required with effective damping and minimum loss of support with age (Page 1, lines 10-20, lines 44-54, and lines 98-121).

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With regard to claim 6, the product-by-process limitation in the claim (i.e., the manner in which the spring material is fixedly connected to the rubber material) does not impart patentability to the claims per MPEP 2113.

13. Claims 1-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 97/13583 in view of Rushmore.

WO 97/13583 discloses the recited support device for a centrifuge substantially as claimed including support members comprising a helical spring element 6 having an axis disposed radially with respect to the axis of rotation of the centrifuge 5; and spring element pretensioning means or adjustable stop members 12 or 13. WO 97/13583 does not disclose the recited rubber material in the spaces between the adjacent rounds or turns of the spring element. Rushmore discloses a composite spring suitable for use in high speed mechanisms (Col. 1, lines 1-3) including a helical spring element 1 wherein a rubber material 2 (Col. 1, lines 36-42) is formed between adjacent rounds or turns of the spring element as seen in Figure 4. The spring element 1 is embedded in and thus fixedly connected to the rubber material 2. It would have been prima facie obvious to one having ordinary skill in the art, at the time applicant's invention was made, to have provided rubber material in the spaces between the adjacent rounds or turns of the spring element in the spring elements of WO 97/13583 as disclosed by Rushmore for the purposes of preventing and/or damping vibrations (Col. 1, lines 36-50 and Col. 2, lines 56-60)

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With regard to claim 6, note the patent to Rushmore teaches that the spring material is fixedly connected to the rubber material by vulcanization (Col. 1, lines 39-42 and Col. 3, lines 6-13), however, the product-by-process limitation in the claim (i.e., the manner in which the spring material is fixedly connected to the rubber material) does not impart patentability to the claims per MPEP 2113.

14. Claims 1-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kopf in view of GB 2143299.

Kopf discloses the recited support device for a centrifuge substantially as claimed including support members comprising a helical spring element 15 having an axis disposed radially with respect to the axis of rotation of the centrifuge attached to spindle 10; and spring element pretensioning means or adjustable stop members 17. Kopf does not disclose the recited rubber material in the spaces between the adjacent rounds or turns of the spring element. GB 2143299 discloses a composite spring suitable for use in industrial vibration and shock isolators (Page 1, lines 119-122) including a helical spring element 10 wherein various materials such as a rubber material 15 (Page 1, lines 107-111) is formed between adjacent rounds or turns of the spring element as seen in Figure 1. The spring element 10 is embedded in and thus fixedly connected to the rubber material 15. It would have been prima facie obvious to one having ordinary skill in the art, at the time applicant's invention was made, to have provided rubber material in the spaces between the adjacent rounds or turns of the

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spring element in the spring elements of Kopf as disclosed by GB 2143299 for the purposes of (a) eliminating the inherently poor damping properties of a metal coil spring which permit high and low frequency vibration from being transmitted; (b) providing ample support while providing good variable damping properties at both low and high frequencies; (c) to control the transmission of vibration throughout the length of the spring; and (d) to provide support an any system in which high axial and lateral stiffness is required with effective damping and minimum loss of support with age (Page 1, lines 10-20, lines 44-54, and lines 98-121).

With regard to claim 6, the product-by-process limitation in the claim (i.e., the manner in which the spring material is fixedly connected to the rubber material) does not impart patentability to the claims per MPEP 2113.

15. Claims 1-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kopf in view of Rushmore.

Kopf discloses the recited support device for a centrifuge substantially as claimed including support members comprising a helical spring element 15 having an axis disposed radially with respect to the axis of rotation of the centrifuge attached to spindle 10; and spring element pretensioning means or adjustable stop members 17. Kopf does not disclose the recited rubber material in the spaces between the adjacent rounds or turns of the spring element. Rushmore discloses a composite spring suitable for use in high speed mechanisms (Col. 1, lines 1-3) including a helical spring element

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1 wherein a rubber material 2 (Col. 1, lines 36-42) is formed between adjacent rounds or turns of the spring element as seen in Figure 4. The spring element 1 is embedded in and thus fixedly connected to the rubber material 2. It would have been prima facie obvious to one having ordinary skill in the art, at the time applicant's invention was made, to have provided rubber material in the spaces between the adjacent rounds or turns of the spring element in the spring elements of Kopf as disclosed by Rushmore for the purposes of preventing and/or damping vibrations (Col. 1, lines 36-50 and Col. 2, lines 56-60)

With regard to claim 6, note the patent to Rushmore teaches that the spring material is fixedly connected to the rubber material by vulcanization (Col. 1, lines 39-42 and Col. 3, lines 6-13), however, the product-by-process limitation in the claim (i.e., the manner in which the spring material is fixedly connected to the rubber material) does not impart patentability to the claims per MPEP 2113.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The cited prior art discloses support devices for centrifuges and composite springs formed of a spring element attached to or embedded in a flexible material.

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17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Charles Cooley whose telephone number is ☎ (703) 308-0112.

18. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1700 receptionist whose telephone number is ☎ (703) 308-0651.

Dated: **6 September 2001**



Charles Cooley
Primary Examiner
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